

A RE-EXAMINATION OF MACLEAY'S NEW GUINEA AND QUEENSLAND FROG TYPES.

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THE present short paper is primarily the result of an inquiry from the Queensland Museum as to the frog described by Macleay as *Hylophorbus rufescens*. It deals briefly with the status of the five frogs taken by the "Chevert" expedition in 1875, four of which were collected in British New Guinea and one at Cape York. These were characterised and named by Sir William Macleay in the Proceedings of the Linnean Society of New South Wales for the year 1878. So short and inadequate were his descriptions that, in the absence of any subsequent examination of the types, the true systematic position of his species has been up till the present one of surmise. They have thus remained a stumbling-block to systematists, and, as a direct result, have either dropped out of recent literature or remain shrouded with doubt, to be referred to only in footnotes and appendices.

One of Macleay's species, *Hylarana nebulosa*, was recognised by Dr. Boulenger as a synonym of *Rana papua*, Lesson. Another, constituting a new genus and species, namely, *Ranaster convexiusculus*, was placed doubtfully in the family Pelobatidae, where it has remained, its true position never having even been suggested. The other three—a new genus and species, *Hylophorbus rufescens*, and two new tree-frogs, *Litoria guttata* and *L. dorsalis*—are not mentioned in recent literature on Papuan Batrachia. Two of these species are synonymous with previously described forms, and two antedate more recently characterised frogs, while *L. dorsalis* is unidentifiable. Briefly, this may be stated as follows:—

Ranaster convexiusculus, Macleay, antedates *Phanerotis nova-guinæ*, van Kampen.

Hylophorbus rufescens, Macleay, antedates *Mantophryne lateralis*, Boulenger.

Hylarana nebulosa, Macleay, is synonymous with *Rana papua*, Lesson.

Litoria guttata, Macleay, is synonymous with *Hyla infrafrenata*, Günther.

Litoria dorsalis, Macleay, is obviously not a *Litoria*, but cannot be identified as the type is lost.

Nothing would be gained by figuring the more or less dilapidated type specimens, for those which will stand as valid species have since been well figured

under later names. The same may be said of a detailed redescription of the types which, as they have deteriorated considerably, might easily be misleading. The main points of accord then, and especially any in which there occurs a divergence from their well-described synonyms, have alone been mentioned.

The five species are dealt with separately as below.

1. *RANASTER CONVEXIUSCULUS*, Macleay.

Macleay, Proc. Linn. Soc. N. S. Wales, ii., 1878, p. 135. Type locality: Katow, British New Guinea.

Boulenger, Brit. Mus. Cat. Batr., 1882, p. 444.

van Kampen, Nova Guinea, ix., 1909, p. 36, pl. ii., fig. 4 (*Phanerotis novæ-guinææ*). Type locality: Merauke, Dutch New Guinea.

The type specimen of this frog is in very fair condition, and shows that the species is identical with Dr. P. N. van Kampen's later described species, *Phanerotis novæ-guinææ*. Macleay placed his genus in the family Discoglossidæ as defined by Dr. Günther.* This has probably been the real cause to which the obscurity of the frog's identity is due, for all authors have followed him. In reducing the many families of Batrachia Salientia admitted in the first edition of the British Museum Catalogue, Boulenger transferred a section of Dr. Günther's family Discoglossidæ to the Pelobatidæ, and with it went, not without doubt, *Ranaster convexiusculus*. In the absence of any further material of which the identity was recognised, subsequent authors have concurred with him, and *Ranaster* has come to be regarded as rightly belonging to that family. In describing *Phanerotis novæ-guinææ*, however, van Kampen records it as the first Cystignathid frog from New Guinea. Dr. Boulenger founded the genus *Phanerotis*† for an undoubted Cystignathid frog from New South Wales, but considerable doubt exists as to whether *P. novæ-guinææ* is really congeneric. However, this hardly affects the present question, for although Dr. van Kampen does not describe the sternal apparatus and sacral vertebrae of his species, he has presumably examined the internal characters in coming to his conclusion as to its family relationships, and, as it is identical with Macleay's species, we must apparently accept *Ranaster convexiusculus* as a member of the family Cystignathidæ. I cannot dissect Macleay's type, but from an examination of the externals I feel convinced that this course will ultimately prove correct.

It seems best to regard the few external differences which occur between *P. fletcheri* and *P. novæ-guinææ* as of generic value. These are the ranoid habit and the distinct tympanum of the former. If we do not accept this separation we must admit a remarkable instance of discontinuous distribution, or convergence. The almost total absence of Cystignathidæ in New Guinea is a matter of surprise, for we must account for their presence in Australia as we do the Hylidæ, which family has freely entered Papuasias and found it favourable to

* Günther, Cat. Batr. Brit. Mus., 1858, 1st ed., p. 34.

† Boulenger, Proc. Linn. Soc. N. S. Wales (2), v., 1891, p. 593.

specialisation, but I think it is a significant thing that some of the Papuan frogs now regarded as belonging to the family Pelobatidæ differ from some Cystignathids in characters which are a matter of "degree" only. Thus *Lechriodus melanopyga*, Doria,* can hardly be distinguished from *Phanerotis fletcheri* on externals alone, a fact which also serves to show how slender and unstable is the boundary between the Australian members of the family Cystignathidæ with slightly dilated sacral vertebrae, and some of the Pelobatidæ in which they are a little more so.

The type of *Ranaster convexiusculus* agrees almost exactly with Dr. van Kampen's splendid description and figure of *P. novæ-guinææ*. It differs only in the distribution of the warts on the back, which are not so well developed and confined more to the sides. Dr. van Kampen makes no mention of the large, rather spaced maxillary teeth, which certainly obtrude themselves upon one's notice. The vomerine teeth are exactly as they are figured by Dr. van Kampen but differ from the condition found in *P. fletcheri*, in which they are weaker and do not extend out beyond the level of the choanae. Macleay describes the tongue as "largely notched behind," but I find it to be quite small as stated by van Kampen. The same may be said of Macleay's "rather large" choanae, which on the contrary are rather small and almost exactly as figured by the Dutch author. The fingers and toes of the type specimen are considerably shrunk, which would account for Macleay's misleading statement that they are webbed. The colour marking of the type agrees in detail with Dr. van Kampen's illustration.

2. HYLOPHORBUS RUFESCENS, Macleay.

Macleay, Proc. Linn. Soc. N. S. Wales, ii., 1878, p. 136. Type locality: Katow, British New Guinea.

Boulenger, Ann. Mag. Nat. Hist. (6), xix., 1897, p. 12, pl. ii., fig. 3 (*Mantophryne lateralis*). Type locality: Mount Victoria, British New Guinea.

Mehély, Termész. Füzetek, xxiv., 1901, p. 220, pl. iv. and pl. v., and pl. x., fig. 4 (*M. lateralis*, Bnigr).

The type specimen of this frog is in poor condition. The extremities have contracted considerably and the colour is quite bleached. Nevertheless it is sufficiently perfect to identify it with *Mantophryne lateralis*, Boulenger. It agrees in every detail except that the form is slightly more slender, while the two warts on the chin of Boulenger's specimen are not discernible. The lower jaw of the type has been crudely broken, showing the two dermal esophageal ridges quite distinctly. The tympanum is now perfectly distinct. The characteristic tongue is exactly as described by Boulenger. The very fine, almost invisible vertebral fold is also present in Macleay's specimen. The colour is now quite bleached, but Macleay's original description agrees in all essentials with Boulenger's fine figure. Therefore, *Mantophryne lateralis*, Boulenger, becomes replaced by the earlier name *Hylophorbus rufescens*, Macleay. *Manto-*

* Doria, Ann. Mus. Civ. Genova, vi., 1874, p. 355, pl. xii., fig. K.

phryne microtis, Werner,* and *M. neuhaussi*, Vogt,† must also change their generic denomination accordingly, unless these species really belong to the genus *Gnathophryne*, Mehély,‡ founded on *M. robusta*, Boulenger.§

3. *HYLARANA NEBULOSA*, Macleay.

Macleay, Proc. Linn. Soc. N. S. Wales, ii., 1878, p. 137. Type locality: Cape York, North Australia.

Boulenger, Cat. Batr. Brit. Mus., 1882, 2nd ed., p. 64 (= *Rana papua*, Less.).

The identity of this form did not escape the acumen of Dr. Boulenger, who recognised it as synonymous with *Rana papua*, Lesson. Nothing remains to be said about it, as the type is in bad condition and is obviously the young of that species.

4. *LITORIA GUTTATA*, Macleay.

Macleay, Proc. Linn. Soc. N. S. Wales, ii., 1878, p. 137. Type locality: Katow, British New Guinea.

Boulenger, Cat. Batr. Brit. Mus., 1882, 2nd ed., p. 337 (footnote).

The type specimen of this frog is in a bad state, and is obviously very young. It differs from the young of *Hyla infrafronata*, Günther (*H. dolichopsis auct*) only in the back being faintly granulated, recalling the condition of *H. gracilentia*, Ptrs. From the latter, however, it is separated by the condition of the webbing of the fingers, which does not extend to the discs on the second and fourth. There are about a dozen small round white spots on the back like those which spasmodically occur in *H. carulea* and *H. infrafronata*. I have no doubt that Macleay's specimen is simply an extremely young example of the latter species.

5. *LITORIA DORSALIS*, Macleay.

Macleay, Proc. Linn. Soc. N. S. Wales, ii., 1878, p. 138. Type locality: Katow, British New Guinea.

Boulenger, Cat. Batr. Brit. Mus., 1882, 2nd ed., p. 337 (footnote).

The type of this species is apparently not extant. With the Acting Curator's kind permission I was allowed to personally search the Macleay Museum, in which are contained the majority of Macleay's type specimens, but was unable to locate it.

Macleay's description is unintelligible. From the fact that the toes are webbed only at the base it is obviously not a *Hyla*. The "mouth opening beneath" and the presence of discs to the fingers suggest that it belongs to some

* Werner, Zool. anz., xxiv., 1901, p. 102.

† Vogt, Sitz. Ges. nat. Freunde, 1911, p. 425.

‡ Mehély, Termész. Füzetek., xxiv., 1901, p. 225.

§ Boulenger, Proc. Zool. Soc., 1898, p. 480, pl. xxxviii., fig. 4.

disked Engystomatid genus, while the latter character, coupled with a basal web to the toes, points to Cornufer affinities. I can find no description which could reasonably be said to tally with Macleay's generalised characters. Taking these facts into account, the most satisfactory procedure will be to totally ignore the name *Litoria dorsalis*, Macleay, and to exclude it from future literature.

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